

REMARKS

Applicant thanks the Examiner for the careful consideration given to this application. Reconsideration is now respectfully requested in view of the following remarks.

Claims 1-62 are pending in this application. Claims 1, 10, 20, 21, 30, 34 and 43 are independent claims. Reconsideration and allowance of the present application are respectfully requested.

Interview of October 20, 2010

Applicant is grateful for the interview conducted on October 20, 2010. This was a telephone interview conducted between Examiner Jaime Holliday and the undersigned. The topic of discussion was how the primary references, Jia et al. and Schmidt, were being applied in the Office Action, specifically with respect to, for example, the claim language as found in Claim 21, "wherein the baseband processor is configured to handle data transmissions during the first mode without multi-antenna signal processing by the multi-antenna signal processing circuit." Examiner Holliday very helpfully explained the rejections. No particular agreement was reached on any issue.

Allowable Subject Matter

Applicant acknowledges with gratitude the indication that Claims 1-20, 43-54, 61, and 62 are allowed.

Claim Rejections Under 35 U.S.C. §103

Claims 21, 22, 25, 29, 30, 33-35, 38, 42 and 55-60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 7,103,325 to Jia et al. (hereinafter "Jia et al.") in view of U.S. Patent Publication No. 2006/0268777 to Schmidt (hereinafter "Schmidt"). This rejection is respectfully traversed for at least the following reasons.

Independent Claim 21 recites: "An apparatus comprising: a multi-antenna signal processing circuit; a first baseband processor configured to operate with the multi-antenna signal processing circuit, the first baseband processor configured to handle data transmissions in a first

mode; and the multi-antenna signal processor configured to handle data transmissions in a second mode, wherein the baseband processor is configured to handle data transmissions during the first mode without multi-antenna signal processing by the multi-antenna signal processing circuit.” Independent Claims 30 and 34, although of different scopes, also include, in part, recitations similar to the last portion of Claim 1 (i.e., similar to “wherein the baseband processor is configured to handle data transmissions during the first mode without multi-antenna signal processing by the multi-antenna signal processing circuit”). Applicant respectfully submits that Jia et al. and Schmidt, either alone or in combination, fail to teach or suggest all of the elements of independent Claims 21, 30, and 34.

First, e.g., at page 4, the Office Action admits that “Jia et al. fails to specifically disclose the baseband processor operated without the multi-antenna signal processing circuit.” Applicant agrees with this statement. The Office Action then states as follows:

In the same field of endeavor, Schmidt clearly shows and discloses wherein the baseband processor (processor core 150) is configured to handle data transmissions during the first mode without multi-antenna signal processing (short range wireless transceiver core 130) by the multi-antenna processing circuit (When the multi-mode wireless communicator device 100 is in the cellular telephone connection mode, the short-range wireless transceiver core 130 is powered down to save power [fig. 1, paragraphs 28, 32] wherein the wireless devices includes [*sic*] multiple antennas (see fig. 1); and the processor core processes both Bluetooth and cellular signals).

Office Action at 4. It is respectfully submitted that this fails to remedy the deficiencies of Jia et al. for at least the following reasons.

To begin with, nowhere in Schmidt is there discussion of a “multi-antenna processing circuit.” All that is shown in Fig. 1A is cellular radio core 110 and short-range wireless transceiver core 130 coupled to a sniffer 111, which is shown coupled to two antennas. It is noted, therefore, that neither cellular radio core 110 nor short-range wireless transceiver core 130 is coupled to multiple antennas. On the contrary, Fig. 1A appears to show that each of these cores 110, 130 is coupled to a single respective antenna and that the sniffer 111 is applied to both antenna feeds, in between the antennas and the cores 110, 130. Furthermore, nowhere does

Schmidt show, describe, or suggest that core 130 (or core 110) operates on more than a single antenna input/output (on the contrary, see, e.g., paragraph 27 (“*an* off-chip antenna”) and paragraph 45 (“*an* antenna 232” and “*The* antenna 232”)). The fact that cores 110, 130 are *not* operated using both antennas shown in Fig. 1A is further supported by paragraph 35 (“The router 190 can send packets in parallel through the separate pathways of cellular or Bluetooth™”; that is, if one of the cores were using both antennas, the other core would not be able to use them, and therefore, packets could not be sent “in parallel”). Hence, short-range wireless transceiver core 130 may not be understood as being a “multi-antenna processing circuit,” as alleged by the Office Action at page 4, for example.

The Office Action, as noted above, understands processor core 150 of Schmidt as corresponding to the “baseband processor,” e.g., as in Claim 21, and short-range wireless transceiver core 130 as corresponding to the “multi-antenna processing circuit,” e.g., as in Claim 21. As has been shown and discussed in the preceding paragraph, however, short-range wireless transceiver core 130 is not a “multi-antenna processing circuit.” In view of this, Schmidt lacks the teaching or suggestion of “wherein the baseband processor is configured to handle data transmissions during the first mode without multi-antenna signal processing by the multi-antenna signal processing circuit.” All that is discussed in paragraph 32 of Schmidt is that short-range wireless transceiver core 130 may be powered down during “the cellular telephone connection mode.” When this happens, processor core 150 is operating in series with cellular radio core 110, while short-range wireless transceiver core 130 is idle. Thus, processor core 150 cannot be understood as operating “during [a] first mode without multi-antenna signal processing by the multi-antenna signal processing circuit,” if for no other reason than there is no multi-antenna signal processing circuit found in Schmidt.

As a result, not only does Schmidt not disclose or suggest the claimed arrangement, but it cannot be combined with Jia et al. to arrive at the claimed arrangement, e.g., as in Claim 21. As has been noted in previous responses to one or more various Office Actions in this application, Jia et al., noting Figs. 2-5 and their respective descriptions (at cols. 3 ff.), shows and describes a system in which, as noted at col. 3, line 67-Col. 4, line 6, discloses the composition of a base station as shown in Fig. 2, namely, that the base station includes a control system 20, baseband processor 22, transmit circuitry 24, receive circuitry 26, and multiple antennas 28. Jia et al.

further states, noting col. 4, lines 37-39, "The multiple antennas 28 and the replicated transmit and receive circuitries 24, 26 provide spatial diversity." Also, Fig. 2 shows that the baseband processor 22 is connected, in series, to the transmit antennas via transmit circuitries 24 and/or receive circuitries 26 (see, also, Figs. 4 and 5). Hence, there is no mode of operation in Jia et al. in which baseband processor 22 operates without the transmit and/or receive circuitries 24, 26 performing multi-antenna signal processing. Hence, the components of Jia et al. fail to correspond to the claimed components at least because the components of Jia et al. that were relied upon to correspond to the claimed multi-antenna signal processing circuit, namely, the transmit/receive circuitries 24, 26 always operate in series with baseband processor 22 to provide multi-antenna processed signals, nor are these components adapted to permit the baseband processor 22 to operate in any mode without such use of these components. If one attempts to merely combine the teachings of Schmidt with Jia et al., one arrives at an apparatus in which a portion of Jia et al., namely, the transmit/receive processing circuitries 24, 26, were to be powered down/shut off, the system of Jia et al. would not function. Hence, the teachings of Jia et al. and Schmidt are incompatible, and a skilled artisan would not have considered combining them to arrive at the claimed subject matter, e.g., as in Claim 21.

As noted above, although of differing scopes, Claims 30 and 34 contain analogous recitations to those discussed in the preceding paragraphs, and therefore, this discussion applies to those claims, as well.

In view of the above, Applicant respectfully submits that neither Jia et al. nor Schmidt nor their combination discloses or suggests all of the elements of independent Claims 21, 30, and 34, and hence, of their respective dependent claims (Claims 28-29, 55, and 56; Claims 31-33, 57, and 58; and Claims 35-42, 59, and 60). Therefore, Applicant respectfully requests that this rejection of Claims 21, 22, 25, 29, 30, 33-35, 38, 42 and 55-60 be withdrawn.

Applicant notes that there may be further arguments with respect to various dependent claims. For example, Claims 55, 57, and 59 recite, at least in part, "wherein the multi-antenna signal processing circuit is further configured to operate in parallel with the (first) baseband processor." As noted above, in both of Jia et al. and Schmidt, the components being read on the baseband processor in Jia et al. (i.e., baseband processor 22 and transmit/receive circuitries 24, 26) and in Schmidt (i.e., core processor 150 and short-range wireless transceiver core 130) are

arranged to operate in series, not in parallel. Hence, Applicant respectfully submits that, for at least these further reasons, the cited references fail to disclose or suggest all elements of Claims 55, 57, and 59.

Claims 23, 24, 31, 32, 36 and 37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jia et al. in view of Schmidt, and in further view of U.S. Patent Publication No. 2004/0082356 to Walton et al. (hereinafter "Walton et al."). This rejection is respectfully traversed for at least the following reasons.

As discussed above, Applicant respectfully submits that neither Jia et al. nor Schmidt nor their combination discloses or suggests all of the elements of independent Claims 21, 30, and 34, and hence, of their respective dependent claims (Claims 28-29, 55, and 56; Claims 31-33, 57, and 58; and Claims 35-42, 59, and 60). It is further submitted that Walton et al., as presented in the Office Action, fails to remedy the deficiencies of the combination of Jia et al. with Schmidt.

Therefore, Applicant respectfully requests that this rejection of Claims 23, 24, 31, 32, 36 and 37 be withdrawn.

Claims 26, 27, 39 and 40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jia et al. in view of Schmidt, and in further view of U.S. Patent No. 7,126,926 to Bjorklund et al. (hereinafter "Bjorklund et al."). This rejection is respectfully traversed for at least the following reasons.

As discussed above, Applicant respectfully submits that neither Jia et al. nor Schmidt nor their combination discloses or suggests all of the elements of independent Claims 21, 30, and 34, and hence, of their respective dependent claims (Claims 28-29, 55, and 56; Claims 31-33, 57, and 58; and Claims 35-42, 59, and 60). It is further submitted that Bjorklund et al., as presented in the Office Action, fails to remedy the deficiencies of the combination of Jia et al. with Schmidt.

Therefore, Applicant respectfully requests that this rejection of Claims 26, 27, 39 and 40 be withdrawn.

Claims 28 and 41 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Jia et al. in view of Schmidt, and in further view of U.S. Patent No. 7,046,651 to Terry (hereinafter "Terry"). This rejection is respectfully traversed for at least the following reasons.

As discussed above, Applicant respectfully submits that neither Jia et al. nor Schmidt nor their combination discloses or suggests all of the elements of independent Claims 21, 30, and 34, and hence, of their respective dependent claims (Claims 28-29, 55, and 56; Claims 31-33, 57, and 58; and Claims 35-42, 59, and 60). It is further submitted that Terry, as presented in the Office Action, fails to remedy the deficiencies of the combination of Jia et al. with Schmidt.

Therefore, Applicant respectfully requests that this rejection of Claims 28 and 41 be withdrawn.

Disclaimer

Applicant may not have presented all possible arguments or have refuted the characterizations of either the claims or the prior art as found in the Office Action. However, the lack of such arguments or refutations is not intended to act as a waiver of such arguments or as concurrence with such characterizations.

CONCLUSION

In view of the above, consideration and allowance are respectfully solicited.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

The Office is authorized to charge any necessary fees to Deposit Account No. 22-0185.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 22-0185, under Order No. 27592-00275-US6 from which the undersigned is authorized to draw.

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Respectfully submitted,

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